

### REMARKS

Claims 34-50 are pending in this application. Claims 34, 35 and 43 have been amended herein. The amendment to Claim 35 finds support on page 7, line 23 to page 8 line 3. The amendments to Claims 34 and 43 find support at page 8, line 25 to page 9, line 2.

In the Office Action mailed July 19, 2006, (hereinafter "Office Action") the examiner has rejected Claims 34-39, 41-47, 49 and 50 under 35 U.S.C. § 102(b), as being as anticipated by Voigt U.S. Patent No. 4,048,129 (hereinafter "Voigt").

The examiner has correctly stated that Voigt has not disclosed half-life temperatures. The examiner asserts that Voigt's disclosure of Perkadox 14 in Example 2 is a disclosure of di-t-butylperoxy isopropyl benzene, which is expressly within the scope of both of applicant's free radical initiators. The examiner further asserts that t-butylperoxy isonanoate is disclosed in Example 2 of Voigt and it would appear to have a half-life temperature within the claimed range because similar t-butylperoxy structures in applicant's specification have half-life temperatures above 80°C. It is noted to the examiner that t-butylperoxy isonanoate is tert-butyl per-3,5,5-trimethylhexanoate (See Voigt column 2, lines 40-41).

Applicants' have herein amended independent Claims 35 and 43 to state that the second free radical initiator has a second 0.1 hour half-life temperature of between 30° and 90°C higher than the first 0.1 hour half-life temperature of first free radical initiator.

Nowhere in Voigt is there any disclosure or motivation of specific half-life temperatures, much less that of a second free-radical initiator having a 0.1 hour half-life temperature between 30° and 90°C greater than the 0.1 hour half-life temperature of the first free radical initiator. On the contrary the only disclosure in Voigt of the use of 2 peroxides at all, is in Example 2, which uses Perkadox 14 and t-butyl isonanoate without any disclosure or appreciation for their respective 0.1 hour half-life temperatures. Further, as will be shown below, Voigt's disclosure of Perkadox 14 and t-butyl isonanoate in Example 2 does not meet the claimed statement of a second free-radical initiator having a 0.1 hour half-life temperature between 30° and 90°C greater than the 0.1 hour half-life temperature of the first free radical initiator.

The examiner has stated that the burden of proof has been shifted to applicants to show that t-butylperoxy isonanoate would not have a half-life temperature within the claimed range of 80°C to 160°C. As stated above, tert-butylperoxy-isonanoate is tert-butyl per-3,5,5-trimethylhexanoate. As such, tert-butylperoxy-isonanoate is within the claimed range of 80°C to 160°C, but as will be shown below, the use of tert-butylperoxy-isonanoate and Perkadox 14 in Example 2 of Voigt does not meet the statements of the amended claims herein. Alpha, alpha'-bis(t-butylperoxy)diisopropylbenzene is used in the analysis below as it is believed to be a synonymous compound to Perkadox 14.

It is respectfully indicated to the examiner that the 0.1 hour half-life temperatures of both of the two peroxide compounds (or synonymous compounds) in Example 2 of Voigt were determined using the information and formulas provided in the downloadable

Akema spreadsheet found at the website address of [www.arkema-inc.com/index.cfm?pag=353](http://www.arkema-inc.com/index.cfm?pag=353).

The procedure to obtain the 0.1 hour half-life values of peroxides is as follows: If one goes to the noted website, downloads the spreadsheet highlighted as Download Half-life Selection Guide, and then goes to the sheet titled Classic Plot and clicks on cell B15, one will find the formula for determining a 6 minute (0.1 hour half-life temperature).

This formula is dependent on the Activation energy (Act. Energy) and A constant data values in cells B5 and B6 in the sheet Classic Plot. Then if one goes to the sheet titled Data & Configuration and uses the Act. Energy and A constant data values presented in cells E60 and F60 for Luperox 270 respectively to replace the values in cells B5 and B6 in the Classic plot sheet respectively, one then obtains the 0.1 hour half-life temperature for Luperox 270 in trichloroethylene (144.6°C) in cell B15 of the Classic Plot sheet.

Likewise if one uses the Activation energy and A constant data values presented in cells E70 and F70 for Luperox F respectively, to replace the values in cells B5 and B6 in the Classic plot sheet, respectively, one then obtains the 0.1 hour half-life temperature for Luperox F in trichloroethylene (161.6°C) in cell B15 of the Classic Plot sheet. Using these values of 0.1 hour half-life temperatures, the difference in the calculated values of the 0.1 hour half-life temperatures of Luperox F, alpha, alpha'-bis(t-

butylperoxy)diisopropylbenzene and tert-butylperoxy-isonanoate is 17 degrees (161.6-144.6=17). Thus, there is no disclosure or motivation in Voigt to a second free radical initiator having a 0.1 hour half-life temperature of 30° to 90°C greater than the 0.1 hour half-life temperature of the first free radical initiator, but only a 17 degree differential as described above. This differential of 17 degrees does not in any way expressly or

inherently disclose, or motivate anyone skilled in the art to specifically choose a 0.1 hour half-life temperature differential of between 30° and 90° C as is stated in applicants claims.

While applicants' specification does state that the 0.1 hour half-life temperature of the first free radical initiator is determined in a dilute solution of monochlorobenzene, (see page 9, lines 5-8), it is believed that any difference in half-life temperature due to the use of a different solvent (trichloroethylene) in the noted spreadsheet, would have a negligible difference in the determination of the 0.1 hour half-life temperatures. And even if the solvent did have a significant effect on the values of half-life temperature (which applicants do not concede), the *relative* values of the 0.1 hour half-life temperatures of the first and second free radical initiators would still have the same relative difference in values regardless of their respective absolute values. Therefore, applicants claiming of a second free radical initiator having a 0.1 hour half-life temperature of 30° to 90°C greater than the 0.1 hour half-life temperature of the first free radical initiator is not in any way disclosed or suggested by Voigt. Absent any such disclosure or motivation, applicants' Claims 34-39, 41-47, 49 and 50 are believed to be not anticipated and non-obvious over Voigt and thus withdrawal of the rejection of anticipation to the above-noted claims is respectfully requested.

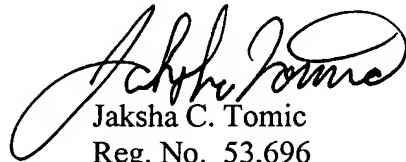
The examiner has also rejected Claims 40 and 48 under 35 U.S.C. § 103(a), as being unpatentable over Voigt in view of Scott et al. U.S. Patent No. 3,646,155 (hereinafter "Scott et al."). Applicants traverse this rejection.

The examiner has correctly stated that Voigt is missing the recommendation to use the claimed peroxides. The examiner then looks to Scott et al. to cure this deficiency. The examiner states that one of ordinary skill in the art would readily conclude that the reference process would function equally well with an array of alternative peroxide compounds such as Scott et al. discloses because the claimed scope of species includes an array of peroxides which are well established as useful alternatives in processes of polyolefin crosslinking reactions. It is respectfully indicated to the examiner that the claims as now amended state that the second free radical initiator has a 0.1 hour half-life temperature of 30° to 90°C greater than the 0.1 hour half-life temperature of the first free radical initiator. Nowhere in Voigt or Scott et al. is there any disclosure or motivation to use a 30° to 90°C 0.1 hour half-life temperature differential between a blend of two free-radical initiators. On the contrary, the only disclosure of two free radical initiators at all is in Example 2 of Voigt, which has been shown above to have only a 17-degree temperature differential and thus is not anticipatory or obvious over applicants' claims. Further, Scott et al. only discloses a list of free-radical generating compounds (See column 2, line 69 to Column 3, line 7) with absolutely no disclosure or suggestion of using a blend of two or more free-radical initiators. This is further evidenced in that not one of the examples in Scott et al. uses other than a single peroxide. Furthermore, Scott et al. makes absolutely no disclosure or suggestion of using a 0.1 hour half-life temperature differential of 30° to 90°C between two free-radical initiators as is currently claimed. Further still, nowhere in either reference alone or in combination, is there any motivation or suggestion to use a half-life temperature differential between two free-radical initiators as is currently claimed. Absent any such disclosure or motivation applicants Claims 40 and 48 are believed to be not obvious over Voigt alone or in

combination with Scott et al. and thus withdrawal of the rejection of the same is respectfully requested.

An early favorable examination on the merits of the subject matter of Claims 34-50 is respectfully requested. Please charge any required fee to Deposit Account No. 07-0888. Also in the event that any extensions of time are required please treat this paper as a petition to extend the time as required and charge Deposit Account No. 07-0888.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Jaksha C. Tomic', is written over the typed name.

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